AMENDMENT TO THE CLAIMS

1. (currently amended) ~~A method for integrating the design of and the use of~~
~~a decision service that returns a real-time decision in ASP mode to an end-user, said~~
5 ~~method comprising:~~

~~a user linking to a first computer system having project design software via~~
~~the Internet or a virtual private network and using said project design software,~~
~~designing any of or any combination of rules, models, and/or strategies, wherein said~~
~~project design software further comprises capability for inserting a champion/challenger~~
10 ~~experiment for testing a new strategy;~~

~~when said user is satisfied with said any of or any combination of rules,~~
~~models, and/or strategies, passing control to a code generator server and generating~~
~~strategy service software code for use in production in said ASP environment;~~

~~installing said strategy service software on a decision server for executing~~
15 ~~said rules, models, and/or strategies;~~

~~an end user sending input data to said decision server via a Web server~~
~~that delivers said input data in ASP mode to said decision server;~~

~~said decision server processing said input data according to said installed~~
~~any of or any combination of rules, models, and/or strategies and creating~~
20 ~~corresponding output data;~~

~~said decision server returning said created output data to said Web server~~
~~in XML format; and~~

~~said Web server returning said output data to said end user.~~

A method for integrating the design of and the use of a decision service
25 that returns a real-time decision in ASP mode, said method comprising:

a business end user linking from a business client system, using standard
protocols over the Internet or virtual private network, to decision engine project design
software that is resident on a first server system at a host site, and said business end
user using said project design software to design a project incorporating any of or any
30 combination of rules, models, and/or strategies, wherein said project design software

- 10 -

further comprises capability for inserting a champion/challenger experiment for testing a new strategy;

when said business end user is satisfied with said any of or any combination of rules, models, and/or strategies and completes the design of said

5 project, passing control to a code generator server at said host where said code generator server generates strategy service software code, corresponding to said competed project, for use in production mode in an ASP environment;

installing said generated strategy service code on a decision server at said host for executing said rules, models, and/or strategies in production mode;

10 in production mode, a second business end user, from said business application, sending at least one inquiry transaction over said Internet to a Web server at said host, which in turn delivers input data, representing said inquiry transaction, in ASP mode to said decision server;

said decision server processing said input data according to said installed

15 strategy service code and creating corresponding output data;

said decision server returning said created output data to said Web server in XML format; and

said Web server returning said output data to said second business end user.

20

2. (original) The method of Claim 1, further comprising:

using system integration and consulting services, said consulting services for developing and refining rules, models, and strategies.

25 3. (original) The method of Claim 1, wherein said generated code is in C.

4. (original) The method of Claim 1, wherein said decision server is linked to external data resources for extracting additional relevant data.

- 11 -

5.   (original) The method of Claim 1, wherein said input data is in XML format and wherein an ASP file running on said Web server passes said data to said decision server.

5   6.   (currently amended) The method of Claim 1, further comprising:

said code generator server generating an XML schema <ins>and an XML parser/builder for reading data corresponding to said generated XML schema, wherein said XML schema corresponds to said project and wherein said XML schema is used to define input and output structures that the business application uses when making calls</ins>

10   <ins>to the decision server</ins> ~~for providing to a client system for collecting said input data~~ ; ~~and~~

~~said code generator server generating an XML parser/builder for reading data conforming to said XML schema.~~

7.   (original) The method of Claim 6, further comprising:

15   providing a copy of said XML schema to said Web server for using in any of error handling, data validation, and data verification.

8.   (currently amended) The method of Claim 1, further comprising:

said code generator server generating a Web page for installing on said

20   Web server to facilitate communication in ASP mode between ~~a client system~~ <ins>said business application</ins> and said decision server.

9.   (currently amended) ~~An apparatus for integrating the design of and the use of a decision service that returns a real-time decision in ASP mode to an end user,~~

25   ~~said apparatus comprising:~~

~~means for a user linking to a first computer system having project design software via the Internet or a virtual private network and using said project design software, designing any of or any combination of rules, models, and/or strategies, wherein said project design software further comprises capability for inserting a~~

30   ~~champion/challenger experiment for testing a new strategy;~~

- 12 -

when said user is satisfied with said any of or any combination of rules, models, and/or strategies, means for passing control to a code generator server and generating strategy service software code for use in production in said ASP environment;

5   means for installing said strategy service software on a decision server for executing said rules, models, and/or strategies;

means for an end user sending input data to said decision server via a Web server that delivers said input data in ASP mode to said decision server;

means for said decision server processing said input data according to 10 said installed any of or any combination of rules, models, and/or strategies and means for creating corresponding output data;

means for said decision server returning said created output data to said Web server in XML format; and

means for said Web server returning said output data to said end user.

15   An apparatus for integrating the design of and the use of a decision service that returns a real-time decision in ASP mode, said apparatus comprising:

means for a business end user linking from a business client system, using standard protocols over the Internet or virtual private network, to decision engine project design software that is resident on a first server system at a host site, and said 20 business end user using said project design software to design a project incorporating any of or any combination of rules, models, and/or strategies, wherein said project design software further comprises capability for inserting a champion/challenger experiment for testing a new strategy;

means for passing control to a code generator server at said host where 25 said code generator server generates strategy service software code, when said business end user is satisfied with said any of or any combination of rules, models, and/or strategies and completes the design of said project, said code corresponding to said competed project, for use in production mode in an ASP environment;

means for installing said generated strategy service code on a decision 30 server at said host for executing said rules, models, and/or strategies in production mode;

in production mode, a second business end user, from said business application, means for sending at least one inquiry transaction over said Internet to a Web server at said host, which in turn delivers input data, representing said inquiry transaction, in ASP mode to said decision server;

5   means for said decision server processing said input data according to said installed strategy service code and creating corresponding output data;

means for said decision server returning said created output data to said Web server in XML format; and

means for said Web server returning said output data to said second

10   business end user.

10.   (original) The apparatus of Claim 9, further comprising:

means for using system integration and consulting services, said consulting services for developing and refining rules, models, and strategies.

15

11.   (original) The apparatus of Claim 9, wherein said generated code is in C.

12.   (original) The apparatus of Claim 9, wherein said decision server is linked to external data resources for extracting additional relevant data.

20

13.   (original) The apparatus of Claim 9, wherein said input data is in XML format and wherein an ASP file running on said Web server passes said data to said decision server.

25   14.   (currently amended) The apparatus of Claim 9, further comprising:

means for said code generator server generating an XML schema and an XML parser/builder for reading data corresponding to said generated XML schema, wherein said XML schema corresponds to said project and wherein said XML schema is used to define input and output structures that the business application uses when

30   making calls to the decision server for providing to a client system for collecting said input data ; and

- 14 -

~~means for said code generator server generating an XML parser/builder for reading data conforming to said XML schema.~~

15. (original) The apparatus of Claim 14, further comprising:

5 means for providing a copy of said XML schema to said Web server for using in any of error handling, data validation, and data verification.

16. (currently amended) The apparatus of Claim 9, further comprising:

 means for said code generator server generating a Web page for installing

10 on said Web server to facilitate communication in ASP mode between ~~a client system~~ <u>said business application</u> and said decision server.

17. (currently amended) ~~A method for assembling and delivering a decision engine in ASP mode, said method comprising:~~

15 ~~defining input and output structures in XML and/or CGI format;~~

 ~~importing analytical models and/or strategies;~~

 ~~adding rules, modifying decision actions, and general tweaking of said~~

~~engine;~~

 ~~testing said engine, wherein said testing further comprises capability for~~

20 ~~inserting a champion/challenger experiment for testing a new strategy;~~

 ~~fueling said engine with data from a variety of sources; and~~

 ~~said engine delivering decisions.~~

<u>A method for assembling and delivering a decision engine in ASP mode, said method comprising:</u>

25 <u>a business end user defining input and output structures in XML and/or CGI format that allows the business end user's business application to communicate with a decision engine at a host and in ASP mode;</u>

 <u>said business end user importing analytical models and/or strategies into said decision engine;</u>

30 <u>said business end user adding rules, modifying decision actions, and general tweaking of said decision engine;</u>

- 15 -

said business end user testing said decision engine, wherein said testing further comprises capability for inserting a champion/challenger experiment for testing a new strategy;

        fueling said decision engine with data from a variety of sources; and

5   said decision engine delivering business decisions back to said business end user in real-time.

18.   (currently amended) A method for ~~an~~ a business end user to develop rules, models, and/or strategies at a host site, for generating real time decisions in ASP

10   mode, said method comprising:

        at a host site, using predictive and/or descriptive analytics for outputting a models file of resulting rules corresponding to a business by taking historical data including historical data of said business as input;

        at said host site, providing a designer component for said business end

15   user, said designer component providing means for said business end user to design ~~designing~~ rules, models, and strategies by using a project design, wherein said project design further comprises capability for inserting a champion/challenger experiment for said business end user to test ~~testing~~ a new strategy;

        storing said project design corresponding to said business in a projects

20   repository at said host site for future reference;

        at said host site, generating a runtime version of said project design for testing by said business end user, said testing thereby validating and verifying said rules corresponding to said business;

        stress testing said rules, models, and/or strategies by inputting a

25   significantly large number of transactions into a business end user monitor communicatively coupled to ~~and~~ a Web server on said host site;

        said Web server generating a bulk test report representing results of said stress testing;

        said business end user modifying said rules, models, and strategies, if

30   necessary as a result of said stress testing; and

- 16 -

generating production code for executing in production mode_on said host
site.

19.   (original) The method of Claim 18, wherein said predictive and/or
5   descriptive analytics is either proprietary.

20.   (currently amended) The method of Claim 18, further comprising:
providing a model editor component on said host site for automatically
converting said models file into an XML version of said rules; and
10   importing said converted XML data into said designer component.

21.   (currently amended) The method of Claim 18, said designer component
further comprising
providing designing software having graphical user interfaces for use by
15 said business end user and for generating data, variables, rules, models, strategies,
trees, and actions required in said project design.

22.   (original) The method of Claim 18, further comprising:
providing a test service whereby said rules are tested in runtime mode,
20 said test service comprising a wrapper for a control panel and for an Excel testing
program.

23.   (original) The method of Claim 18, further comprising:
said stress testing tracking statistics on specific rules, models, and/or
25 strategies by counting the number of times predetermined rules, models, and/or
strategies are used during said stress testing.

24.   (currently amended) The method of Claim 23, further comprising:
storing said tracked statistics in a statistics repository on said host site.
30
25.   (original) The method of Claim 18, wherein said production code is in C.

- 17 -

26.   (currently amended) An apparatus for ~~an~~ a business end user to develop rules, models, and/or strategies at a host site, for generating real time decisions in ASP mode, said apparatus comprising:

5   predictive and/or descriptive analytics at a host site for outputting a models file of resulting rules corresponding to a business by taking historical data including historical data of said business as input;

              a designer component at said host site and for said business end user, said designer component providing means for said business end user to design

10 ~~designing~~ rules, models, and strategies by using a project design, wherein said project design further comprises capability for inserting a champion/challenger experiment for said business end user to test ~~testing~~ a new strategy;

              a projects repository at said host site for storing said project design corresponding to said business for future reference;

15   a generated runtime version at said host site of said project design for testing by said business end user, thereby to validate and verify said rules corresponding to said business;

              means for stress testing said rules, models, and/or strategies by inputting a significantly large number of transactions into a business end user monitor ~~and~~

20 communicatively coupled to a Web server on said host site;

              a bulk test report generated on said Web server, said bulk test report representing results of said stress testing;

              means for said business end user modifying said rules, models, and strategies, if necessary as a result of said stress testing; and

25   production code for executing in production mode on said host site.

27.   (original) The apparatus of Claim 26, wherein said predictive and/or descriptive analytics is either proprietary.

30 28.   (currently amended) The apparatus of Claim 26, further comprising:

- 18 -

a model editor component <u>on said host site</u> for automatically converting said models file into an XML version of said rules; and

means for importing said converted XML data into said designer component.

5

29.   (currently amended) The apparatus of Claim 26, said designer component further comprising

designing software having graphical user interfaces <u>for use by said business end user and</u> for generating data, variables, rules, models, strategies, trees,

10   and actions required in said project design.

30.   (original) The apparatus of Claim 26, further comprising:

a test service for testing said rules in runtime mode, said test service comprising a wrapper for a control panel and for an Excel testing program.

15

31.   (original) The apparatus of Claim 26, further comprising:

means for said stress testing to track statistics on specific rules, models, and/or strategies by counting the number of times predetermined rules, models, and/or strategies are used during said stress testing.

20

32.   (currently amended) The apparatus of Claim 26, further comprising:

a statistics repository <u>on said host site</u> for storing said tracked statistics.

33.   (previously amended) The apparatus of Claim 26, wherein said production

25   code is C format.

34.   (currently amended) An apparatus in an ASP environment for automating real time decisions, said apparatus comprising:

~~a data center accessible over the Internet;~~

30   ~~an all purpose decision engine resident on said data center;~~

- 19 -

~~means for configuring, testing, and deploying said all-purpose decision engine; and~~

~~means for champion/challenger testing in a strategy design cycle;~~

~~wherein said configured decision engine is embeddable in a business~~

5 ~~software application.~~

a data center on a host site accessible over the Internet by a business end user from a business software application on a client server system;

an all-purpose decision engine resident on said data center;

means for said business end user configuring, testing, and deploying said

10 all-purpose decision engine; and

means for said business end user champion/challenger testing in a strategy design cycle;

wherein said configured decision engine is embeddable in said business software application.

15

35.   (original) The apparatus of Claim 34, further comprising:

at least one model.

36.   (original) The apparatus of Claim 34, further comprising:

20   systems integration and strategy consulting.

37.   (previously amended) The apparatus of Claim 34, further comprising domain expert contributions from at least one domain expert, said at least one domain expert comprising any of:

25   a client;

a partner; and

a consultant.

38.   (previously amended) The apparatus of Claim 35, wherein said at least

30   one model is any combination of:

expert;

- 20 -

judgment;

pooled;

custom predictive; and

decision;

5   wherein said at least one model predicts any combination of risk, revenue, response, and attrition.

39.   (previously amended) The apparatus of Claim 34, said means for configuring, testing, and deploying further comprising adaptability for a variety of end
10   user categories, comprising any of:

vertical markets and functional areas within said vertical markets;

horizontal markets and functional areas within said horizontal markets;

operation managers of Fortune 1000 companies; and

training consultants and software integrators.

15

40.   (original) The apparatus of Claim 34, said means for configuring, testing, and deploying further comprising:

means for building a special purpose decision application having a user interface customized to a particular purpose.

20

41.   (original) The apparatus of Claim 40, wherein said particular purpose is business.

42.   (original) The apparatus of Claim 34, further comprising:

25   open and industry standard software architecture on said data center for software compatibility.

43.   (original) The apparatus of Claim 42, wherein said open and industry standard software architecture follows Extensible Markup Language (XML) standards
30   for Internet communications.

44.   (original) The apparatus of Claim 34, further comprising:
             an additional layer of coordinating software for linking said decision engine
to netsourced and/or external data.

5   45.   (currently amended) The apparatus of Claim 34, further comprising:
             a transaction log resident on said host of said automated real time
decisions, said log accessible by a client.

46.   (previously amended) The apparatus of Claim 34, further comprising:
10   means for integrating said decision engine into an enterprise workflow;
             wherein said decisions comprise any combination of:
                  scores;
                  reason codes;
                  actions; and
15   other calculated results.

47.   (currently amended) The apparatus of Claim 34, further comprising:
             a decision process template resident on said host site for facilitating easy
assembly of a basic design of said decision engine.
20
48.   (canceled)

49.   (currently amended) The apparatus of Claim 34, further comprising:
             automatic means for importing predefined models and/or strategies by an
25 said business end user into said configured decision engine.

50.   (original) The apparatus of Claim 34, further comprising:
             a visual designer component for facilitating said configuring said decision
engine;
30   a Web-based reporting facility component for design time configuration
and run-time testing results; and

- 22 -

a run-time server for run-time execution of said configured decision engine wherein said server is linked to from a requesting system via a Web-server.

51.   (original) The apparatus of Claim 50, further comprising:

5   means for using said visual designer component to create a project resident at said data center;

        means for said data center generating associated code for said project and install said associated code on said run-time server;

        means for said data center generating an XML schema corresponding to
10   said project to define input and output structures for said business application; and

        means for said run-time server accepting transactions from said business application, said transactions conforming to said XML schema, said run-time server processing said transactions using said project to generate said real time decisions, and said run-time server returning said real time decisions to said business application via
15   said Web-server.

52.   (original) The apparatus of Claim 34, further comprising:
        user defined rules to be executed by said decision engine.

20 53.   (previously amended) The apparatus of Claim 51, said project having a project design and associated design parts, said design parts comprising any of:
        input and output data structures;
        characteristic generations;
        models comprising characteristics and attributes to produce a predictive
25   score and a score reason at runtime for a given transaction, and user defined functions;
        a reason codes corresponding to said score reason;
        business rules and exclusions;
        decision strategies; and
        recommended decisions, scores, and actions;
30   wherein said project design is carried out by a workflow functional component of said designer component by working with said project design parts;

- 23 -

wherein said workflow functional component comprises:

expression sequences;

segmentation trees;

workflow lists;

5   means for placing said sequences, trees; and lists in a desired order, said order comprising a hierarchical design;

a root workflow list providing a starting point for processing said workflow at runtime and means for defining said workflow of said project; and

wherein said reason codes are determined during calculation of said

10   scores.

54.   (original) The apparatus of Claim 53, wherein said root workflow list represents a main thread of execution for said project at runtime, wherein any of said workflow lists is used as a result list at an exit point of a segmentation tree of said

15   segmentation trees, and wherein end result nodes in said segmentation tree points to said workflow list.

55.   (previously amended) The apparatus of Claim 54, wherein more than one node in any of: said segmentation tree and said more than one segmentation tree, in

20   said project points to a same workflow list of said workflow lists.

56.   (previously amended) The apparatus of Claim 53, further comprising means for validating said models, wherein said means for validating comprises:

using a model editor for validating and verifying content of said models;

25   and

marking said project for production or testing.

57.   (currently amended) A method in an ASP environment for automating real time decisions, said method comprising:

30   providing a data center accessible over the Internet;

providing an all-purpose decision engine resident on said data center;

- 24 -

~~configuring, testing, and deploying said all-purpose decision engine; and champion/challenger testing in a strategy-design cycle;~~

~~wherein said configured decision engine is embeddable in a business software application.~~

5   providing a data center on a host site accessible over the Internet by a business end user from a business software application on a client server system:

providing an all-purpose decision engine resident on said data center;

said business end user configuring, testing, and deploying said all-purpose decision engine; and

10   said business end user champion/challenger testing in a strategy design cycle;

wherein said configured decision engine is embeddable in said business software application.

15   58.   (original) The method of Claim 57, further comprising:
providing at least one model.

59.   (original) The method of Claim 57, further comprising:
providing systems integration and strategy consulting.

20

60.   (previously amended) The method of Claim 57, further comprising providing domain expert contributions from at least one domain expert, said at least one domain expert comprising any of:

a client;

25   a partner; and

a consultant.

61.   (previously amended) The method of Claim 58, wherein said at least one model is any combination of:

30   expert;

judgment;

- 25 -

pooled;

custom predictive; and

decision;

wherein said at least one model predicts any combination of risk, revenue,

5　response, and attrition.

62.　　　(previously amended) The method of Claim 57, wherein said configuring,
testing, and deploying further comprises adaptability for a variety of end user
categories, comprising any of:

10　　　　　　　vertical markets and functional areas within said vertical markets;

horizontal markets and functional areas within said horizontal markets;

operation managers of Fortune 1000 companies; and

training consultants and software integrators.

15　63.　　　(original) The method of Claim 57, said configuring, testing, and deploying
further comprising:

building a special purpose decision application having a user interface
customized to a particular purpose.

20　64.　　　(original) The method of Claim 63, wherein said particular purpose is
business.

65.　　　(original) The method of Claim 57, further comprising:

providing open and industry standard software architecture on said data

25　center for software compatibility.

66.　　　(original) The method of Claim 65, wherein said open and industry
standard software architecture follows Extensible Markup Language (XML) standards
for Internet communications.

30

67.　　　(original) The method of Claim 57, further comprising:

- 26 -

providing an additional layer of coordinating software for linking said decision engine to netsourced and/or external data.

68.   (currently amended) The method of Claim 57, further comprising:

5   providing a transaction log resident on said host of said automated real time decisions, said log accessible by a client.

69.   (previously amended) The method of Claim 57, further comprising:

           integrating said decision engine into an enterprise workflow;

10   wherein said decisions comprise any combination of, but are not limited to:

               scores;

               reason codes;

               actions; and

               other calculated results.

15

70.   (currently amended) The method of Claim 57, further comprising:

           providing a decision process template resident on said host site for facilitating easy assembly of a basic design of said decision engine.

20   71.   (canceled)

72.   (currently amended) The method of Claim 57, further comprising:

           automatic importing predefined models and/or strategies by an said business end user into said configured decision engine.

25

73.   (original) The method of Claim 57, further comprising:

           providing a visual designer component for facilitating said configuring said decision engine;

           providing a Web-based reporting facility component for design time

30   configuration and run-time testing results; and

- 27 -

providing a run-time server for run-time execution of said configured decision engine wherein said server is linked to from a requesting system via a Web-server.

5   74.   (original) The method of Claim 73, further comprising:

using said visual designer component to create a project resident at said data center;

said data center generating associated code for said project and install said associated code on said run-time server;

10   said data center generating an XML schema corresponding to said project to define input and output structures for said business application; and

said run-time server accepting transactions from said business application, said transactions conforming to said XML schema, said run-time server processing said transactions using said project to generate said real time decisions, and

15   said run-time server returning said real time decisions to said business application via said Web-server.

75.   (original) The method of Claim 57, further comprising:

providing user defined rules to be executed by said decision engine.

20

76.   (previously amended) The method of Claim 74, wherein said project comprises a project design and associated design parts, said design parts comprising any of:

input and output data structures;

25   characteristic generations;

models comprising characteristics and attributes to produce a predictive score and a score reason at runtime for a given transaction, and user defined functions;

a reason codes corresponding to said score reason;

business rules and exclusions;

30   decision strategies; and

recommended decisions, scores, and actions;

- 28 -

wherein said project design carried out by a workflow functional component of said designer component by working with said project design parts;

wherein said workflow functional component comprises:

expression sequences;

5   segmentation trees;

workflow lists;

means for placing said sequences, trees, and lists in a desired order, said order comprising a hierarchical design;

a root workflow list providing a starting point for processing said

10   workflow at runtime and means for defining said workflow of said project; and

wherein said reason codes are determined during calculation of said scores.

77.   (original) The method of Claim 76, wherein said root workflow list

15   represents a main thread of execution for said project at runtime, wherein any of said workflow lists is used as a result list at an exit point of a segmentation tree of said segmentation trees, and wherein end result nodes in said segmentation tree points to said workflow list.

20   78.   (previously amended) The method of Claim 77, wherein more than one node in any of said segmentation tree and said more than one segmentation tree, in said project points to a same workflow list of said workflow lists.

79.   (previously amended) The method of Claim 76, further comprising

25   validating said models, wherein said validating comprises:

using a model editor for validating and verifying content of said models; and

marking said project for production or testing.

30

- 29 -